

REMARKS

Claims 1-2, 11-12, 21-23, and 26-32 are in the application. Claims 3-10, 13-20, and 24-25 are canceled without prejudice. New Claim 26 is a combination of Claims 11, 21, and 22, which combination has been indicated as being allowable. New Claims 27 and 28 that depend therefrom are analogous to Claims 12 and 23, respectively. New Claim 29 is a combination of Claims 11 and 23, which combination has been indicated as being allowable. New Claims 30-32 are analogous to Claims 12, 21, and 22, respectively.

Claims 1, 11, and 21 are rejected under 35 USC 103(a) as being unpatentable over Kaufman et al (U.S. Patent 6,151,037) in view of King et al (EP 1 078 755 A2).

Kaufman et al disclose a printing apparatus, employing both a thermal transfer printhead station and an ink jet printhead station.

King et al disclose an ink jet recording medium and printing method, wherein the ink jet recording medium comprises a substrate coated with at least one ink receiving layer and at least one upper protective layer comprising polymeric particles that can form a film when heated to an elevated temperature.

Applicants' invention, as recited in independent Claim 1, is directed to

1. (original) In combination, (1) a thermal printhead and (2) an inkjet printhead, both mounted in an inkjet printer, said inkjet printhead configured for printing inkjet ink to form images on a sheet of print media, said print media including a sealable porous topcoat on an ink-receiving microporous layer, said thermal printhead adapted to seal said sealable porous topcoat by providing a source of heat to said sealable porous surface coat following said printing of images.

Independent Claim 11 is to the same effect, but including a print medium that has a sealable porous surface:

11. (original) In combination, (1) a thermal printhead, (2) an inkjet printhead, both mounted in an inkjet printer, said inkjet printhead configured for printing inkjet ink to form images on a sheet of print media, and (3) said print media including a sealable porous surface coat on an ink-receiving microporous layer, said thermal printhead adapted to seal said sealable porous surface coat by providing a source of heat to said sealable porous surface coat following said printing of images.

The Examiner argues that Kaufman et al teach the combination of a thermal printhead 40 and an ink jet printhead 64, both mounted in an ink jet printer 20. However, it is more accurate to say that Kaufman et al teach a ***thermal transfer print station*** 24 that includes a thermal printhead ***assembly*** 40 (Col. 4, lines 42-52). The thermal printhead assembly includes a conventional ***thermal transfer printhead*** 42 having a line of heater elements 44. Kaufman et al specifically define thermal transfer printing in Col. 1, lines 26-31:

In a thermal transfer printing process, a thermally reactive ribbon is disposed between a thermal printhead and the print medium. The thermal printhead has a plurality of heating elements thereon that can be selectively energized. As the thermally reactive ribbon is heated, ink is transferred from the ribbon onto the print medium forming indicia thereon.

Such a thermal transfer printing process is clearly an ***indirect*** heating process.

In contrast, Applicants' thermal printhead is intended for ***direct*** heating of the print medium to seal a sealable porous surface coat. As stated in paragraph 0018,

The thermal printhead is adapted to seal the sealable porous surface coat by providing a source of heat to the sealable porous surface coat following the printing of images.

Note also paragraph 0020:

The basic idea of the present embodiment is to attach a thermal printhead downstream of the print zone so that it passes over the area that was previously printed. The thermal printhead ... could be a thermal printhead attached to the carriage or the thermal inkjet printhead and scanned by the carriage motion over the previously printed area.

Those skilled in the ink jet art are well aware of the distinctions between a thermal printhead and a thermal transfer printhead.

As a significant further distinction, Kaufman et al disclose incorporating both thermal transfer printing and ink jet printing in the same apparatus. For example, their Figure 8 shows that certain fields (144, 146, 148, 150) are printed by the thermal transfer print station, while field 152 is printed by the ink jet print station. Thus, there is no connection between text printed by the thermal transfer print station and text printed by the ink jet print station. And the text printed by the thermal transfer print station, by definition, includes the use of a thermally reactive ribbon. In direct contrast,

Applicants' claimed combination involves printing ink on the print medium and then passing the printed ink medium past the thermal printhead ("said thermal printhead adapted to seal said sealable porous topcoat by providing a source of heat to said sealable porous surface coat following said printing of images" – Claims 1 and 11).

There is absolutely no disclosure or suggestion by Kaufman of printing on a print medium that includes a sealable porous topcoat.

On the other hand, King et al disclose printing on a receiving medium which comprises a substrate coating with at least one ink receiving layer and at least one upper protective layer, followed by subsequently heating the printed image to form a stable image protecting coating. It is clear that the apparatus of Kaufman et al could not be used to print on the print medium of King et al, since Kaufman et al do not perform a printing operation followed by a heating operation that would seal the top coat of the print medium of King et al.

King et al employ a lamination, which incorporates heat and may or may not incorporate pressure (paragraph 0019), with or without a second, inert sheet held against the image protective layer (paragraph 0020). Nowhere do King et al disclose or suggest the use of a thermal printhead to seal their topcoat.

Since the print medium of King et al could not be used in the apparatus of Kaufman et al to seal the upper protective layer of King et al, then the combination cannot fairly be considered to disclose or suggest Applicants' claimed combination.

Reconsideration of the rejection of Claims 1, 11, and 21 under 35 USC 103(a) as being unpatentable over Kaufman et al in view of King et al is respectfully requested.

Claims 2 and 12 are rejected under 35 USC 103(a) as being unpatentable over Kaufman et al, *supra*, in view of King et al, *supra*, and further in view of Seo et al (JP 02002240231A)

Kaufman et al and King et al are discussed above. Seo et al disclose a stamp forming apparatus capable of making a stamp, by which stamping can be used for continuous imprinting and color printing. A thermal head 13 and an inkjet printer head 12 are integrally provided on the underside of a carriage 11.

Applicants' Claim 2 recites:

2. (original) The combination of Claim 1 wherein said inkjet printhead is supported and moved on a carriage across a scan axis,

along a print zone, perpendicular to a direction of print media advance and wherein said thermal printhead is positioned with said inkjet printhead on said carriage to seal said sealable porous surface coat following printing of said image.

Claim 12 is identical, except that it depends from Claim 11.

First, Claims 2 and 12, which depend from Claims 1 and 11, are patentable for at least the same reasons that Claims 1 and 11 are.

Second, in this rejection, the Examiner is attempting to combine the thermal transfer printing apparatus of Kaufman et al with the stamp forming apparatus of Seo et al. There is absolutely no disclosure or suggestion in either of these references (nor in King et al as well) of the desirability of making such a combination. Whatever the combination of such an apparatus would look like, it cannot possibly suggest Applicants' claimed apparatus. Kaufman et al form separate images by either thermal transfer printing or ink jet printing on a print medium ("such as a label, ticket, tag and the like" – Col. 4, lines 25-26). Seo et al form images on the stamping face part of a stamping material of the stamp, employing the thermal head for melting parts of the stamping face part. Neither reference discloses or suggests employing a print medium having an upper sealable protective layer, such as disclosed by King et al.

Reconsideration of the rejection of Claims 2 and 12 under 35 USC 103(a) as being unpatentable over Kaufman et al in view of King et al and further in view of Seo et al is respectfully requested.

Claims 3-10 and 13-20 are rejected under 35 USC 103(a) as being unpatentable over Kaufman et al, *supra*, in view of King et al, *supra*, and further in view of Eldridge et al (U.S. Patent 5,059,989).

The cancellation of Claims 3-10 and 13-20 obviates the rejection.

Applicants appreciate that Claims 22-23 are allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

New Claim 26 combines the limitations of Claims 11, 21, and 22, while new Claim 29 combines the limitations of Claims 11 and 23. These claims, and the claims dependent thereon, should now be allowable.

The foregoing amendments and arguments are submitted to place the application in condition for allowance. The Examiner is respectfully requested to take such action. If the Examiner has any questions, he is invited to contact the undersigned at the

below-listed telephone number. HOWEVER, ALL WRITTEN COMMUNICATIONS SHOULD CONTINUE TO BE DIRECTED TO: IP ADMINISTRATION, LEGAL DEPARTMENT, M/S 35, HEWLETT-PACKARD COMPANY, P.O. BOX 272400, FORT COLLINS, CO 80527-2400.

Respectfully submitted,

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